REMARKS

Claims 1, 2 and 5-7 are pending.

Response to Claim Rejections Under §103

Claims 1, 2 and 5-7 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,387,238 to Merk et al in view of U.S. Patent No. 6,949,178 to Tennakoon et al. Applicants respectfully traverse.

The present claims relate to a method for the sterilizing/cleaning of an object with an aqueous solution of a peroxide, which comprises, *inter alia,* providing an electrolytic cell comprising an anode chamber including an anode, a cathode chamber including a gas cathode, a catholyte inlet and a catholyte outlet, a membrane separating the anode and cathode chambers, and a particulate solid acid catalyst comprising a polymer resin filling a space between the gas cathode and the membrane. Furthermore, the anode is in contact with the membrane (i.e., a zero gap constitution) so as to suppress an increase in cell voltage.

In addition, the presently claimed method is suitable for the sterilization of drink containers and medical devices. *See,* Abstract and page 1, second paragraph.

Merk discloses one-chamber (Fig. 5) and two-chamber (Figs. 1 and 4) configurations. Further, Merk discloses that a purpose of the optional membrane (20, 220) is to separate the unit into two chambers, an anodic chamber (12, 212) and a cathodic chamber (14, 214). *See,* Abstract, col. 4, lines 52-55, col. 14, lines 38-46 and Figs. 1 and 4.

Tennakoon discloses that peracids may be produced in electrochemical cells, wherein a liquid acid catalyst is replaced by a solid electrolyte such as a perfluoronated sulfonic acid polymer, thereby eliminating the need for corrosive acids. *See,* col. 2, lines 59-61.

As an example, Tennakoon refers to U.S. Patent No. 5,122,538 to Lokkesmoe et al as disclosing a process for generating peracid in a packed-bed type reaction vessel charged with a cation-exchange resin (e.g., sulfonic acid resin), wherein the resin catalyzes the reaction between the hydrogen peroxide and a carboxylic acid to produce peracids. *See,* col. 2, lines 62-67. More particularly, Lokkesmoe discloses an on-site generator of peroxyacetic acid using polymer resin (i.e., hydrogen peroxide and acetic acid are supplied to a reaction chamber with packed bed of solid resin). Lokkesmoe further discloses the use of a swelling prevention agent for the resin.

According to Tennakoon, one problem with the Lokkesmoe method is that the hydrogen peroxide causes the resins to swell, thus, the catalyst bed must be regenerated with chelating agents prior to introducing the reaction mixture. Tennakoon further discloses that the resins may degrade in the presence of oxidizing agents which can introduce contaminants into the peracid product and limit catalyst life in general. In addition, some of the chelating agents and reaction products present in the resulting product are toxic. Thus, health and safety concerns limit or prevent the direct application of peracids generated by the Lokkesmoe process for "medical sterilization, food processing and consumer product applications." *See,* col. 3, lines 1-13. In other words, Tennakoon teaches away from using a particulate solid acid catalyst for the sterilization of drink containers and medical devices. Further, Tennakoon discloses a special electrolytic method to produce peracids and, as such, is not directed to the use of particle resins in the claimed system based on the chemical reactor of Lokkesmoe.

Modifying Merk, as the Examiner suggests, i.e., modifying the configuration of Fig. 1 (and Fig. 4) of Merk, such that it includes a particulate solid acid catalyst comprising a polymer resin filling a space between the gas cathode and the membrane, wherein the anode is in contact

with the membrane, would alter the two-chamber-configurations represented by Figs. 1 and 4 of Merk to single-chamber configurations. With regard to the one-chamber configurations, however, Merk discloses that when the unit includes a single chamber 312, an anode 316 forms a first wall of the chamber and a gas diffusion cathode 318 forms a second wall of the chamber. Merk further discloses that no membrane is needed in this embodiment as only one electrolyte chamber 312 is employed. *See,* col. 16, lines 25-33.

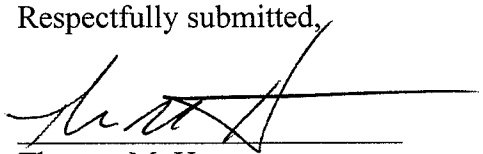
Accordingly, one skilled in the art would not be motivated to modify the two-chamber configuration of Merk such that the anode is in contact with the membrane because (1) Merk discloses that the membrane operates to separate the electrolytic cell into two chambers, and modifying Merk as the Examiner suggests would prevent the two-chamber electrolytic cell of Merk from operating as intended; and (2) Merk discloses that an electrolytic cell having a one-chamber configuration does not need a membrane.

Withdrawal of the rejection is respectfully requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: July 1, 2009